

ENG Wireless Receiver
WX-RP700

Operating Instructions



Panasonic®

Before attempting to connect or operate this product,
please read these instructions completely.

**CAUTION**

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



SA 1965

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



SA 1966

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

The serial number of this product may be found on the bottom of the unit.

You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. _____

Serial No. _____

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

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CAUTION :

It is a violation of Federal Law to begin operating this system prior to obtaining an FCC Radio License.

The FCC ID number for this radio equipment is listed below.

FCC ID : ACK9TAWX-RP700

PREFACE

The ENG wireless receiver WX-RP700 is designed to be used with the ENG wireless transmitter WX-RP410.

Because this is a diversity system, the occurrence of obstruction related noise and dropouts due to poor reception areas or "dead spots" are rare. Digital switching provides seamless shifting between the two antenna systems for best possible, continuous reception quality.

Four, readily available, AA batteries provide on the needed power. And because of the low voltage requirements of the LSI circuits, the WX-RP700 can be continuously operated for up to 8 hours, with alkaline type batteries.

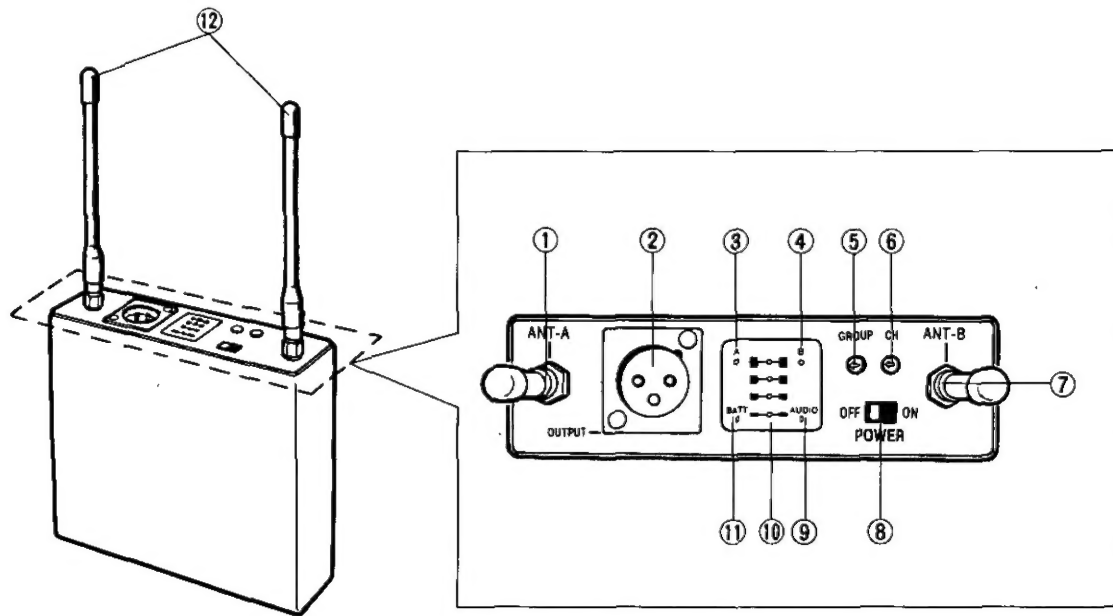
FEATURES

- The PLL synthesized Oscillator makes it simple to switch to an operating frequency clear of local interference.
- The compander technique yields a dynamic range of approx. 100 dB.
- The space diversity reception system reduces the chance of multi-path reflection dropouts.
- A XLR/3-pin is provided for the Audio Output Connector.
- LED indicators show RF signal strength reception, selected antenna, presence of audio signal, and battery condition.

PRECAUTIONS

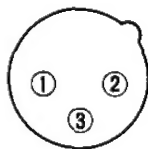
- Do not expose the receiver to water or moisture.
- Do not operate the receiver if it becomes wet.
Do take immediate action if the receiver does become wet. Turn power off and consult with qualified service personnel. Moisture can damage the receiver and also create the danger of electric shock.
- Do not use the receiver beyond its temperature, humidity or power source ratings.
 - (a) Ambient temperature must not range beyond 32°F - 122°F (0°C - +50°C).
 - (b) Avoid using the receiver when humidity is above 90%.
- For cleaning the body case, wipe with dry cloth. If necessary, use a damp cloth with mild soap. Do not use chemicals such as benzine, alcohol or thinner for cleaning.
- If intermittent avoid occurs during operation, turn off the power and consult with qualified service personnel.
- Do not subject the microphone to shock.
- Try to place the antenna in a high position for best reception.
- Do not use this receiver in places effected by motor, transformer or automobile ignition noise.
- Do place the receiver at least 6 ft. (2m) apart from the transmitter when more than one transmitter is used on different frequencies to minimize interference.
- Before turning the transmitter off, turn down the faders of the mixer any other equipment which is connected to the Receiver Output of the receiver.
- When not in use, be sure to set the power switch to the "OFF" position. If this unit is not to be used for a long period of time, remove the batteries from this unit.
- This unit will typically receive over a range of approximately 260 ft. (78 meters). Should noise occur, observe the following points.
 - The distance between the transmitter and the receiver should be as short as possible.
 - The receiver should be as far as possible from cars and any other devices which generate electrical noise, such as fluorescent lights and electric motors.
- Use 1 transmitter for 1 receiver.
- If trouble develops with the receiver during operation, turn off the power and consult with qualified service personnel. There are no user serviceable parts inside.
- Be sure to turn off the power of the receiver when the transmitter is not used.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



1. Antenna Connection Terminal [ANT-A]
2. Audio Output Connecto ($\sim 60 \text{ dB}\mu$ nominal)

1. Ground
2. Hot
3. Cold



3. Receiving Antenna Indicator A
4. Receiving Antenna Indicator B
5. Group Selection Switch [GROUP]
6. Channel Selection Switch [CH]
7. Antenna Connection Terminal B [ANT-B]
8. Power On/Off Switch [POWER, ON/OFF]
9. Audio Output Level Indicator [AUDIO]
10. RF Receiving Level Indicators

These indicators show the receiving level. Three or four indicators should be lit for adequate signal strength.

11. Battery Status Indicator [BATT]

This indicator light changes to red from green to indicate need for battery replacement.

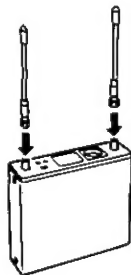
12. Flexible Antenna

CONNECTION OF FLEXIBLE ANTENNAS

Connect the Flexible Antenna A and B to the Antenna Connection Terminal A (1) and B (7).

Note :

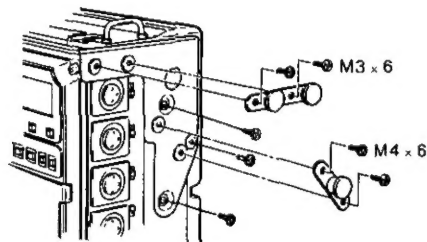
Keep the Antennas connected to protect Antenna Terminal A (1) and B (7) even if this receiver is not being used.



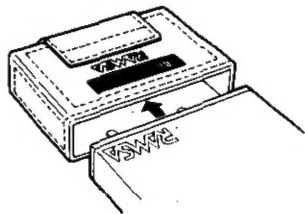
INSTALLATION

Installation to the MII Format VTR AU-410.

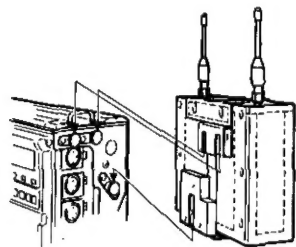
1. Remove 3 screws from the VTR.
2. Attach the Mounting Plate (local Panasonic dealer) and the Mounting Angles (provided) by using the 7 screws just removed as shown below.



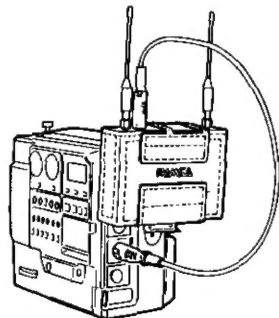
3. Install the receiver into the Cover (provided).



4. Mount the receiver onto the VTR as shown below.

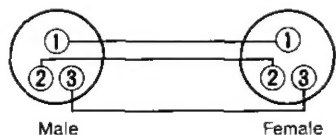


5. Connect the audio cable (local) to the Audio Input of the VTR. Set the Audio Input of the VTR to MIC level.

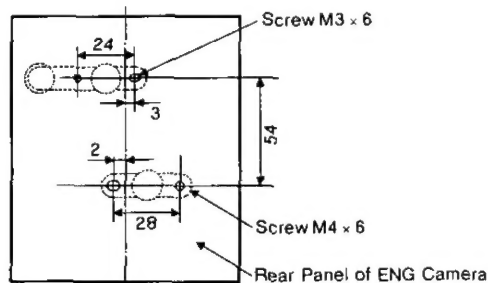


Note :

Use the audio cable as shown below.



In case of installation other than AU-410, refer to the following.

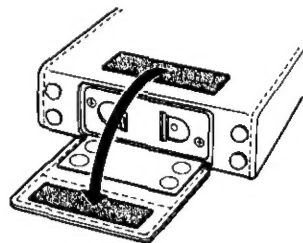


(Unit : mm)

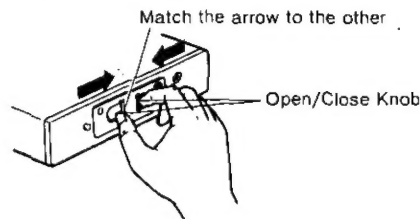
Battery Installation**Precautions :**

- Be sure to turn off the power of this unit.
- Use alkaline batteries (AA size).
The operating time with alkaline batteries is approx. 6 hours. (Panasonic Alkaline Dry Battery of "AA" type is used at 77°F (25°C).)

1. Open the Battery Cover of the Carrying Case. (Provided).



2. Remove the Battery Case as shown below.



3. Install the batteries into the Battery Case.

Notes :

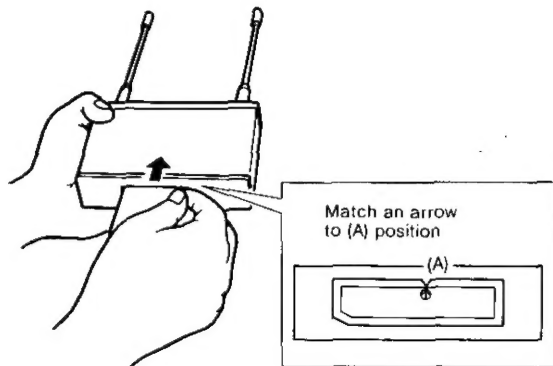
1. Observe the correct battery polarity \oplus and \ominus .
2. Do not touch the electrode or contact of the battery.
3. Do not attempt to recharge alkaline or carbon batteries. They are not rechargeable.
4. Do not make a short circuit between \oplus and \ominus polarities of the battery.
5. Do not mix used batteries with new batteries. Replace these batteries together.
6. Do not mix this battery with different types of batteries.

4. Replacing the Battery Case

Insert the Battery Case until the click sound can be heard.

Notes :

1. Confirm the direction of the Battery Case.
If the Battery Case is inserted incorrectly, it can not be installed completely.
2. Remove the Battery Case from this unit if it is not used for a long period of time.



How to Check the Battery Condition

The Battery Status Indicator shows the battery condition. This indicator lights green after turning on the power when the total voltage of 4 batteries is more than approx. 4.0V.

Notes :

1. When this indicator light changes to red from green, replace the battery within 45 minutes.
2. When the frequency is changed while the power is turned on the unit will shut off for a moment and then turn back on.
3. Use this receiver only after confirming the Battery Status Indicator lights green.
Audio will be muted for 2 sec. after turning on the power of this unit.

FREQUENCY SETTING

Group Description

The channel frequencies available for transmission are arranged into groups. The channels within a group are at non-adjacent frequencies. This reduces the likelihood of interference between transmitters when multiple WX-RP700's are used in close proximity. Therefore, one group should always be selected when using more than one transmitter/receiver system. Each system may then be set to a different channel within that group.

- Groups 1, 2, 4 and 5 each consist of 6 channels.
- Groups 3 and 6 each consist of 5 channels.
- If suitable channels cannot be found in Groups 1 - 6, use the groups designated * and : .
- More than one group may be used if necessary, but be sure to confirm beforehand that there is no adjacent-channel interference between transmitters.

How to Set the Frequency

1. Turn off the power on both the receiver and transmitter.
2. Using the screwdriver provided, set the Group Selection switch on the receiver to the same group number as the transmitter.
3. Set the Channel Selection switch on the receiver to the same channel number as the transmitter.
4. Turn on the power of the receiver only.
5. Check that there are no LED's lit on the receiving level indicator. If any LED's are lit, then there is some type of external interference. In this case, select another channel and repeat this test.

Note :

Receivers set to adjacent channel frequencies should not be used closer than within 600 feet of each other. This may be of concern when the receivers are set to different groups. Refer to the frequency chart on pages 9 and 10.

Frequency List

Carrier frequency (MHz)	GROUP • CHANNEL							
	GROUP1	GROUP2	GROUP3	GROUP4	GROUP5	GROUP6	GROUP •	GROUP :
797.000	CHANNEL 1							
797.125		CHANNEL 1						
797.250	CHANNEL 2							
797.375		CHANNEL 2						
797.500			CHANNEL 1					
797.625							CHANNEL 1	
797.750	CHANNEL 3							
797.875		CHANNEL 3						
798.000			CHANNEL 2					
798.125							CHANNEL 2	
798.250			CHANNEL 3					
798.375							CHANNEL 3	
798.500		CHANNEL 4						
798.625	CHANNEL 4							
798.750							CHANNEL 4	
798.875							CHANNEL 5	
799.000	CHANNEL 5							
799.125							CHANNEL 6	
799.250			CHANNEL 4					
799.375		CHANNEL 5						
799.500							CHANNEL •	
799.625	CHANNEL 6							
799.750		CHANNEL 6						
799.875			CHANNEL 5					

Frequency List

Carrier frequency (MHz)	GROUP • CHANNEL							
	GROUP1	GROUP2	GROUP3	GROUP4	GROUP5	GROUP6	GROUP •	GROUP :
800.000								CHANNEL 1
800.125				CHANNEL 1				
800.250					CHANNEL 1			
800.375				CHANNEL 2				
800.500					CHANNEL 2			
800.625						CHANNEL 1		
800.750								CHANNEL 2
800.875				CHANNEL 3				
801.000					CHANNEL 3			
801.125						CHANNEL 2		
801.250								CHANNEL 3
801.375						CHANNEL 3		
801.500								CHANNEL 4
801.625								CHANNEL 5
801.750				CHANNEL 4				
801.875					CHANNEL 4			
802.000								CHANNEL 6
802.125				CHANNEL 5				
802.250								CHANNEL •
802.375						CHANNEL 4		
802.500					CHANNEL 5			
802.625								CHANNEL :
802.750				CHANNEL 6				
802.875					CHANNEL 6			
803.000						CHANNEL 5		

Broadcasting System Description and Cautions for UHF Interference

The WX-RP7000 receives FM modulated signals in the UHF frequency range of 797.000 MHz to 803.000 MHz. Television channels 68 and 69 also fall within this range. Check the local area for these TV stations. Then select groups as follows :

Channel 68 broadcast area : Use Groups 4, 5, 6, or : .

Channel 69 broadcast area : Use Groups 1, 2, 3 or • .

Note :

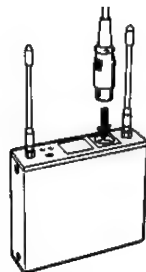
In areas which receive both channels 68 and 69, choose the group with least interference. However, be sure to especially avoid using the following channels which are on the exact same broadcast frequencies :

GROUP 2/CHANNEL 6 (CH 68)

GROUP : /CHANNEL 3 (CH 69)

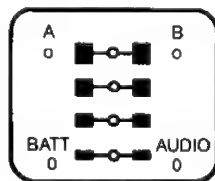
Audio Output Connection

This connector accepts a female XLR 3-pin plug. Output level is a nominal $-60\text{ dB}\mu$. For adequate gain, this output should connect to a mic pre-amp of a mixer or similar equipment.



Receiving Level Indicator Description

An indication of 3 or 4 points means there is adequate signal strength. If less than 3 or 4 points are lit, then shorten the distance between receiver and transmitter, or try a different frequency.

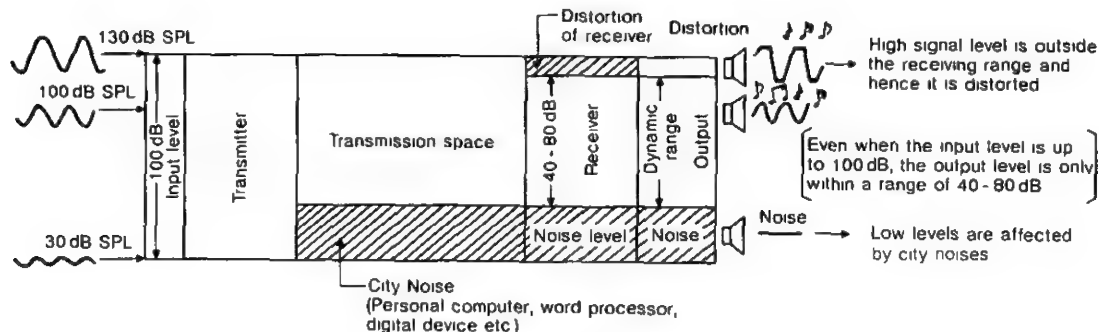


Receiving Level Indicator

NOISE REDUCTION SYSTEM

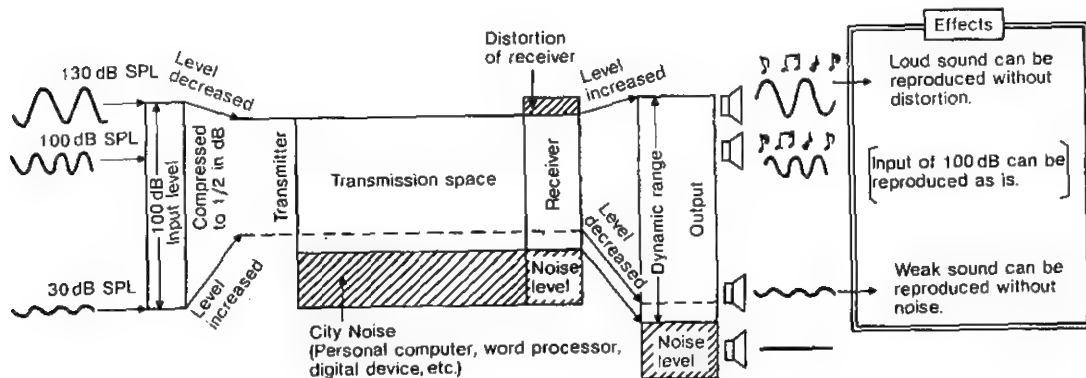
Conventional FM transmission techniques exhibit certain characteristics that have limited the dynamic range and fidelity of traditional wireless microphone systems. When the sound pressure level is high there is a danger of over modulating the FM waveform resulting in audible distortion.

When levels are low, the noise imposed on the transmitters signal by interference sources becomes audible. Due to these limitations, the typical dynamic range of these systems is in the range of 40-60 dB with a maximum of 80 dB under ideal conditions.



The Panasonic wireless system uses a compression / expansion technique (also known as a "componder") to reduce the dynamic range of the audio signal before transmission. The signal is then expanded back to its original form at the receiver.

By reducing the range of the audio signal during transmission, the system virtually eliminates the distortion and noise difficulties faced by other systems. WX-RP410 or WX-RP700 can routinely provide a dynamic range of 100 dB even in high noise environments.



SPECIFICATIONS

Receiving Frequency :	797.000 MHz - 803.000 MHz (switch selectable)
Intermediate Frequency :	260.1 MHz, 10.7 MHz
Battery :	"AA" size Alkaline Battery (1.5V × 4 (6V))
Operating Time with Battery :	Approx. 6 hours (Panasonic Alkaline AA Battery used at 77°F (25°C).)
Ambient Operating Temperature :	32°F - 122°F (0° - 50°C)
Receiving System :	Space Diversity Double Super Heterodyne
Receiving Sensitivity :	More than S/N 40 dB (5 dBμV Input, ±12.5 kHz FM)
Receiving Band Width :	100 kHz
Selectivity :	More than 60 dB (±250 kHz detuning)
Squelch Sensitivity :	2 dBμV
Antenna Type :	1/4 Wave Length Flexible Antenna
Antenna Connector :	SMA Connector
Output Level :	-60 dB (Load 600 ohms at ±4 kHzFM) (0 dB=0.775 Vrms)
Signal-to-noise Ratio :	More than 60 dB (35 dBμV Input, ±4 kHzFM) A-weighted
Dynamic Range :	More than 100 dB (35 dBμV Input, ±40 kHzFM) A-weighted
De-emphasis :	50 μsec.
Frequency Characteristics :	40 Hz - 15 kHz (±3 dB)
Distortion :	Less than 1.5% (±12.5 kHz FM)
Output Impedance :	200 ohms , Balanced
Output Connector :	XLR (MALE)

RF Receiving Level Indicator :	Approx $-10 \sim +35 \text{ dB}\mu\text{V}$ indicated by 4 points
Diversity Indicator :	Receiving A, B (LED)
AF Level Indicator :	LED lights in red at within -6 dB from the maximum output LED lights in green at within -36 dB from the maximum output
Power Source Indicator :	LED lights in red at less than approx. 4.4V
Dimensions :	$112 \text{ (W)} \times 95.5 \text{ (H)} \times 31.5 \text{ (D)} \text{ mm}$
Weights :	Approx. 500g (include the alkaline batteries)

ACCESSORIES

Carrying Case	1 pc.
Miniature Screw Driver	1 pc.
Camera Mounting Angle	2 pcs.
Battery Case	1 pc.



Panasonic

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